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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

PACIFIC GAS AND ELECTRIC COMPANY,

Defendant.

Case No. 14-CR-00175-WHA

**RESPONSE TO FURTHER  
QUESTIONS RE 2019 PSPS  
CRITERIA**

Judge: Hon. William Alsup

Defendant Pacific Gas and Electric Company (“PG&E”) respectfully submits this response to the Court’s April 21, 2021 order concerning further questions regarding PG&E’s 2019 PSPS criteria. (Dkt. 1382.)

*PG&E shall please submit a statement of how its PSPS criteria used in 2019 differed from the PSPS criteria used in 2020 (the latter 2020 criteria having already been described for the Court).*

As discussed in PG&E’s November 18, 2020 submission, for the 2020 fire season, distribution lines in a grid cell that satisfied minimum fire potential conditions were included in the initial scope of a PSPS event if the 2-kilometer resolution Distribution Large Fire Probability Model (“LFP<sub>D</sub>”), which is the product of the Outage Producing Winds (“OPW”) model and the Utility Fire Potential Index (“Utility FPI”) model, exceeded 6.0; if Black Swan conditions were satisfied; or, when the those two models were not satisfied but the results were close to the thresholds, if other data indicated that the weather event was likely to be more severe than forecast. (Dkt. 1265 at 3.)

The criteria for the 2019 fire season differed from those for 2020 in two primary ways. *First*, the 2019 criteria did not include Black Swan conditions, which were implemented for the first time for the 2020 fire season. *Second*, the 2019 criteria operated only in lower-definition 3-kilometer resolution, used an earlier iteration of the OPW model and had an LFP<sub>D</sub> guidance value of 0.08. Due to the difference in the relevant models, this 0.08 value is not properly understood as being either a higher or lower threshold than the 6.0 used in 2020, but rather as operating on a separate scale.

PG&E made these changes to its PSPS criteria and related models as part of its ongoing efforts to improve its weather modeling and the models by which it seeks to reduce the risk of catastrophic wildfires through PSPS events.<sup>1</sup> As described in PG&E’s March 29, 2021

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<sup>1</sup> In addition to the two changes described above, PG&E made a number of other changes to its weather modeling and PSPS models as part of its ongoing efforts to improve its PSPS program. For example, PG&E updated the FPI model to increase the alignment of PG&E’s identification of fire risk with agency forecasts and warnings by taking into account whether a Red Flag Warning (“RFW”) has been issued by the National Weather Service (“NWS”), and incorporated into the OPW model outage data from 2019 through February 2020, including data

1 submission, improvements to PG&E's PSPS and weather models in conjunction with  
 2 improvements to other aspects of PG&E's PSPS program—such as the addition or automation of  
 3 over 600 sectionalizing devices and lines switches, use of over 450 megawatts of temporary  
 4 generation to support substations and critical customers, and optimization of restoration  
 5 patrols—resulted in PG&E de-energizing 55% fewer customers in 2020 than it would have under  
 6 similar weather conditions in 2019 and in PG&E reducing the aggregate average outage duration  
 7 after the weather “all clear” from approximately 17 hours in 2019 to 10 hours in 2020. (See  
 8 Dkt. 1369 at 3-4.)

9 *In this communication, also state the extent to which the 2019*  
 10 *criteria considered vegetation clearance conditions specific to*  
 11 *circuits and considered PG&E's wildfire vegetation management*  
*priority ratings specific to circuits.*

12 Similar to the 2020 criteria, the 2019 criteria did not consider the status of  
 13 vegetation management work or priority rankings. (See Dkt. 1265 at 7, 19-20.)

14 *Would the Girvan Circuit have been turned off in 2020 had the*  
 15 *2019 criteria still been in use?*

16 PG&E understands the Court to be asking, had PG&E not changed its PSPS  
 17 criteria or weather models between 2019 and 2020, whether the portion of the Girvan Circuit in  
 18 the area of interest would have been de-energized when the Zogg Fire started. The answer is no,  
 19 had the 2019 PSPS criteria and models still been in use at the time of the Zogg Fire, the vast  
 20 majority of the Girvan Circuit, including the area of interest, would have remained energized on  
 21 September 27, 2020. The 2019 LFP<sub>D</sub> output for the weather conditions forecast to have occurred  
 22 in the afternoon of September 27, 2020 in the grid cells within a one-mile radius of the area of  
 23 interest did not exceed 0.04, which was below the 2019 guidance value of 0.08. PG&E notes  
 24 that a portion of the Girvan Circuit approximately 10 miles from the area of interest would have  
 25 satisfied the thresholds for de-energization on September 27, 2020 under the models and criteria

26 \_\_\_\_\_  
 27 concerning hazards identified during PSPS events which, but-for the PSPS event, may have led  
 28 to an outage, in addition to other methodological changes to allow for more accurate outage  
 forecasts.

in place for 2019, but PG&E expects that it would have used a switch to sectionalize that portion of the Girvan Circuit, de-energizing it while leaving the area of interest energized given that this area did not exceed the 2019 guidance value.

*PG&E shall also explain from where and how it derived the data for all ten years used in the LiDAR submission dated March 23. For example, the windspeed, relative humidity, live fuel moisture percentage, the 10-hour dead fuel moisture percentage, the Fosberg Fire Weather Index, air temperature, land type, and historical fire occurrences. Explain how those inputs could be reliable for comparison to present inputs. How were these metrics measured in, for instance, 2010, such that comparison to 2020 makes sense?*

To prepare the chart that PG&E submitted to the CPUC and the Federal Monitor, (and subsequently to the Court) to approximate the impact that PG&E's tree-overstrike proposal may have had in expanding the scope of PSPS events under the models PG&E had in place in 2020, PG&E used historical weather in each grid cell in PG&E's service territory on an hour-by-hour basis for the ten-year period from 2010 through 2019.

Following a standard meteorological methodology similar to that utilized by the CPUC in determining High-Fire Threat District ("HFTD") boundaries, PG&E's historical analysis began with historical climate records maintained by the National Center for Environmental Prediction ("NCEP"), part of the National Weather Service. In a process similar to that described in Question 3 of PG&E's December 16, 2020 submission (Dkt. 1271 at 10-11), the PG&E Operational Mesoscale Modeling System ("POMMS") model and an instance of NCEP's Weather Research and Forecast ("WRF") model were used to create historical datasets. PG&E's models assimilated historical climate observations from numerous sources (*e.g.*, weather stations, radar, satellites, weather balloons, ships and airplanes) and produced a grid cell-by-grid cell output of weather conditions.<sup>2</sup>

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<sup>2</sup> With respect to the land type of each grid cell and historical fire occurrences, PG&E used the data that is currently being used by PG&E's models rather than trying to recreate what those values might have been at each point over the 10-year period.

1 In short, PG&E followed a standard methodology deployed by other investor-  
2 owned utilities, academic institutions and experts to create an hour-by-hour historical dataset of  
3 weather conditions. PG&E used these historical datasets to approximate what PSPS events  
4 would have occurred over the last decade had PG&E's 2020 models been in place using the same  
5 models that PG&E currently uses to forecast weather for PSPS decision-making. This is not to  
6 say, however, that PG&E's analysis shows what would have happened in actual PSPS events.  
7 For example, the forecasts that would have been created 10 years ago, which would have  
8 determined whether a PSPS event occurred, likely varied from actual recorded weather  
9 conditions for the same period, which PG&E used as the basis for this analysis. As PG&E has  
10 previously noted, the figures included in the chart are approximations that are based on several  
11 assumptions; PG&E believes that the charts are directionally representative of the impact that  
12 these differences in PSPS protocols would have had, had they been in place between 2010 and  
13 2019.

14 PG&E also notes for the Court's awareness that, in conducting analyses in  
15 connection with the CPUC's review of Proposed Conditions 11 and 12, PG&E discovered a  
16 data-based error in the analysis of the estimated impact of its tree-overstrike proposal that had  
17 been provided to the CPUC and the Federal Monitor and, subsequently, to the Court on  
18 March 23, 2021. (*See* Dkt. 1358-1 at 8.) Specifically, PG&E's analysis omitted two PSPS  
19 events, and the resultant impacts, for the year 2014 in the Baseline +>70th Percentile Sum Tree  
20 Over Strike row. PG&E is filing as Exhibit A a copy of the chart previously provided to the  
21 Court with this error corrected. PG&E notes that the presentation used during the CPUC public  
22 workshop on April 20, 2021 regarding Proposed Conditions 11 and 12, and which the CPUC  
23 filed with the Court, was based on data that corrected for this error. (*See* Dkt. 1380-1 at 18-20.)

24 PG&E further notes for the Court's awareness that on April 20, 2021, a CPUC  
25 administrative law judge issued a proposed Decision Addressing the Late 2019 Public Safety  
26 Power Shutoffs by Pacific Gas and Electric Company, Southern California Edison Company, and  
27  
28

San Diego Gas & Electric Company to Mitigate the Risk of Wildfire Caused by Utility  
Infrastructure, which PG&E is filing as Exhibit B.

1 Dated: April 26, 2021

Respectfully Submitted,

2 JENNER & BLOCK LLP

3  
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